

ART. XI.—*Contributions to the Flora of Australia,*  
*No. 7.<sup>1</sup>*

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**Latin in Systematic Botany.**

At the last Botanical Congress, held at Vienna in 1905, on the whole a salutary check was administered to the objectionable tendencies of modern systematists in certain quarters, especially as regards frivolous changes of name, and it is, in fact, a matter of regret that the list of protected names was not greatly increased. On the other hand, it is impossible to follow Mr. Maiden<sup>2</sup> when he states that botanists are as bound by these laws as by those of their own country, and must follow these laws whether they approve of them or not. For this to be requisite the Congress would need to be a really representative one, to which all botanists sent elected representatives. At present it is a fortuitous concourse almost solely of systematists, among whom the local interests of the country in which the Congress is held are always unduly strongly represented. So far as I am aware, botanists from the south of the Equator were entirely unrepresented, and plant physiologists and anatomists were conspicuous by their absence. Yet the man who has intimately investigated the structure and properties of a plant has a greater claim to decide that its name shall not be altered than the systematist whose interest in the plant largely ceases as soon as it is labelled, and is often only revived when a chance of relabelling it occurs.

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1 No. 6 in Proc. Roy. Soc. Vict., 1907, vol. 20, p. 76.

2 Jour. Roy. Soc. N.S. Wales, vol. xl., 1906, p. 74.

Until the Congress is a thoroughly representative one, it must remain a purely voluntary matter with each botanist as to whether he follows its rules or not, and the power of the Congress to enforce its rules will depend solely upon the number of botanists who elect to follow them. Under these circumstances I must take strong exception to Art. 36, and, by disobeying it, adopt the best plan to have it rescinded or altered.

Art. 36 reads: "On and after January 1st, 1908, the publication of names of new groups will be valid only when they are accompanied by a Latin diagnosis." In Art. 13 a group is defined as including a species. Any practice which tends to render a science unnecessarily inaccessible to the general public is bad in principle, and ultimately reacts injuriously upon the science in question, and upon the eclectic few connected with it. Latin is thoroughly discredited as a scientific language, and in re-adopting it systematists are taking a step back to the middle ages. If the rule had been to the effect that diagnoses not written in English, French, or German, or unaccompanied by diagnostic figures must be written in Latin, less exception could have been taken to it, although it would have been more satisfactory to state that diagnoses not accompanied by analytic figures, must be written in English, French or German. A good diagnostic figure is worth a dozen pages of the average systematist's dog Latin, which at its best would hardly satisfy even Tacitus, and at its worst is sufficient to make Cicero turn in his grave.

To describe plants both in the author's language and in Latin would be to unnecessarily increase the already enormous bulk of systematic literature, and to swell its pouring torrent to a permanent flood level. To avoid this, and as a protest against the rule, the plants, in the present and subsequent papers, will be given, as hitherto, with diagnoses in English, and if necessary with explanatory figures. Any Latinist who would like to see his initials after a plant name is at liberty to acquire this right by publishing a translation in Latin of the plant diagnosis here given, and thus following the rule laid down by the last Congress. I shall make no complaint, and am willing to take this risk in order to get an absurd law altered.

It is a pity the rules were not submitted to some well-known authority on jurisprudence before publication. Thus the omis-

sion of the word Latin in Art. 37 renders Arts. 36 and 39 invalid, or at least renders their interpretation doubtful in many cases. By means of Art. 37, it would be possible in a round-about way to force the acceptance of a new species according to Congress rules without a Latin diagnosis. Further, to change the name or authority for a new species because it had not been published with a Latin diagnosis would be to act in flat defiance of Art. 50, and other instances of rules whose effects are difficult to harmonise might be given.

Nomina Conservanda.—It is greatly to be regretted that the time limit for change of name was put so far back as 1753, and that the list of nomina conservanda was not greatly extended. To give an instance. *Anthistiria* L. (Graminae), 1779, is changed to *Themeda*, Forst, 1775, by Haeckel in De Candolle's Monograph and in Engler's Pflanzenfamilien. It is impossible to accept any such change of a Linnean name on such slender grounds as a four years' priority, when a name has been universally accepted for over 120 years. Questions of general convenience override any such claim in a case of this kind.

ACACIA ACCOLA, Maiden and Betche. Proc. Linn. Soc.  
N.S.Wales, 1906, p. 734. (Leguminosae).

This appears to be a narrow-leaved and broad-fruited form of *A. neriifolia*. A specimen from Bailey resembles Maiden's form more closely as regards the fruit and the funicle of the seed, but has the broader phyllodes of *A. neriifolia*. Probably the future discovery of other intervening forms will render advisable the reduction of this species to a variety.

ADENANTHOS CYGNORUM, Diels. Fragm. Phyt. Aust. Occid.,  
p. 138. (Proteaceae).

This "species" is made to include the *A. apiculata* of Meissner, and the Drummond specimens of *A. sericea*. The species is, however, undoubtedly the same as *A. sericea*, Benth., and if Dr. Diels had seen No. 788 as well as No. 787, he would probably not have made this error. There can be no doubt that many accepted species of this genus will be ultimately reduced to varieties as the result of cultural observations, and hence great care

should be exercised to avoid creating useless synonyms by conclusions made without such observations in the case of highly plastic genera of this character. It is also doubtful whether the *A. Drummondii*, Meisn., revived by Diels, represents more than a variety of *A. apiculata*, R.Br.

AIZOON INTERMEDIUM, Diels, and AIZOON GLABRUM, n. sp.  
(Aizoaceae).

The former species is distinguished by Diels from *A. zygophylloides* (F. v. M.), by the shape of the leaves, longer pedicels and narrow calyx lobes. It comes very close to some nearly smooth stemmed specimens included by F. v. Mueller in *A. zygophylloides*, and may ultimately prove to have not more than a varietal significance. It is, however, quite distinct from Luehmann's undescribed *Aizoon glabrum*. This is a rather small plant, spreading more or less from a single root, the slender wiry glabrous stems, 2 to 6 inches high, simple or branching one or more times, bearing terminal flowers in loose cymes on short pedicels, one or two pairs of linear leaves being close under the flower, which is sometimes an inch across when fully open, but usually less. Calyx 4 partite, usually divided nearly to the base, enlarging during flowering to nearly  $\frac{1}{2}$  inch in length, in large, fully-opened flowers, the lobes more or less acuminate, usually lanceolate, but not always of equal breadth in the same flower. Stamens numerous. Styles 4. Capsule dehiscent into 8 valves. Seeds numerous, almost black, shaped like the head of a mace and covered with small tuberculate spines.

Murchison R., I. Tyson, 1898; Mt. Caroline, 1891, Miss Sewel; Salt Lakes, Martha Heal.

AIZOON RODWAYI, n. sp.

Plant 3 to over 8 inches high, stems more or less decumbent at base, and spreading. Leaves in opposite pairs, soft, fleshy, with scattered warty, transparent tubercles, ovate or linear, mostly  $\frac{1}{2}$  inch long, but beneath each flower usually a larger pair more pointed and with broader bases. Plant glabrous throughout, the stems more slender than *A. quadrifidum*, but stouter than *A. glabrum*. Flowers large terminal, 1 to  $1\frac{1}{2}$  inches

diameter when fully expanded. Calyx divided to about the middle, the five segments with broad bases and more or less bluntly acuminate tips. Other features much as in *A. quadrifidum*. Seeds apparently reddish-brown, but otherwise as in *A. glabrum*.

The absence of any scurfy tomentum at once distinguishes these two species from *A. quadrifidum*. In addition, *A. Rodwayi* has broader ovate or lanceolate leaves, the calyx is less deeply divided, the flower larger and more bulky at its base. This, with the less deeply divided calyx and the shape of the leaves distinguishes the plant from *A. zygophylloides*. *A. glabrum* is told by its glabrous wiry stems, smaller flowers and calyx deeply divided to the base.

I. Tyson, Salt Marsh, W. Australia, 1893; F. A. Rodway, M.B., dried up salt lake, De-demona, W. Australia, 1907.

*ANGLANTHUS HUMIFUSUS*, Benth., var. *GRANDIFLORUS*.

(Compositae).

In the last contribution to the Flora of Australia, No. 6, this was erroneously given as a new variety by the accidental omission of a proof correction.

*CASSINIA LAEVIS*, R. Br. (Compositae).

The record from C. French, Goulburn R., under the above heading, in Contributions to the Flora of Australia, No. 6, should apply to *Cassinia arcuata*, R.Br., wrongly recorded as *C. Theodori*, F. v. M.

*CONOSPERMUM POLYCEPHALUM*, Meisn., var. *LEIANTHUM*, Benth.

(Proteaceae).

Diels and Pritzel<sup>1</sup> raise this variety to specific rank as *C. leianthum*, Benth. The material at the National Herbarium, a part only of which appears to have been examined by Diels and Pritzel, shows conclusively that there is no reason for this change. It is impossible to lay down any clear line of demarca-

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<sup>1</sup> *Fragm. Phyt. Austr. Occid.*, p. 141.

tion based on a group of constant characters, for Diels' distinctions do not apply to all the specimens between this variety and the type species. The typical form of the closely allied *C. Toddii* of F. Mueller<sup>1</sup> shows a trifling difference in the size and acuminate character of the bracts, while the perianth tube is rather more slender, is longer in proportion to the lobes, and somewhat more slender, and is more pubescent outside. Even these characters do not appear to be quite constant, so that *C. Toddii* may also ultimately prove to be a variety of *C. polycephalum* when more intermediate material is available.

DAVIESIA CORYMBOSA, var. ST. JOHNI = *D. CORYMBOSA*, var.  
VIRGATA. (Papilionaceae).

This plant was recorded in the Victorian Naturalist, Nov., 1906, p. 133, and specimens have since been received from Mr. C. French, Jr., collected at Ringwood. They are identical with the *D. virgata* of Cunningham, which Bentham refers to *D. corymbosa*, var. *mimosoides*. The condensed clusters of small flowers and the very narrow leaves would, as suggested by Mr. W. R. Guilfoyle, justify the recognition of a second variety differing more widely from the type than var. *mimosoides*, even though transition forms occur, but the name should be variety *virgata*, in recognition of the old specific name for the variety.

DIPLOTAXIS MURALIS, D.C., the wall or sand mustard.  
(Cruciferae).

This introduced alien has been variously referred to as *D. muralis* and *D. tenuifolia*, D.C. It has, however, the small flowers and less divided leaves of the former. The Australian specimens have the leaves less exclusively radical and more on the stem, and are often double the normal height, frequently reaching 12 to 16 inches. The plants also show a greater tendency to be perennial, but these changes are probably climatic ones, not necessarily of varietal significance, although they are approaches towards *D. tenuifolia*, D.C.

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<sup>1</sup> Fragm., vol. x., p. 20.

*ERIOSTEMON GRACILE*, R. Grah. (Proteaceae). In Edinb. N. Phil. Journ., xvi., 1834, p. 175 = *ERIOSTEMON DIFFORMIS*, A. Cunn.

The former name is given as that of a valid species in the Kew Index, and the Nat. Herbarium possesses specimens from the Grampians, which are indetical with forms of *E. difformis*, the glabrous petals and slightly longer flower stalks of the specimens being variable features in *E. difformis*. The specimens do not exactly tally with the description given in Mueller's Plants Indigenous to Victoria, I., 1860, p. 125, but our specimens appear to be authentic. *E. gracile* is the older name, but to change the current one would be a frivolous interference with established nomenclature. Bentham seems to have entirely overlooked *E. gracile*, and makes no mention of it in the Flora Australiensis.

*ERIOSTEMON INTERMEDIUS*. (Proc. Roy. Soc. Vict., 19, 1907, p. 40 = *E. DESERTI*, Pritzel (Fragm. Phytog. Austr. Occ., 1905, p. 320).

The plant was described before Diels' and Pritzel's work was available. Their description is exceedingly condensed, and imperfect in several respects, but specimens of their plant since received show that the two species are identical, the older name standing. Pritzel seems to have overlooked the fact that the plant is an interesting connecting link, especially as regards the stamens between the *Leionema* section of "*Phebalium*" and *Eriostemon* proper. The close resemblance to *E. Brucei*, which misled Mueller, and to which Pritzel attaches undue importance, is mainly external.

*EUPHRASIA COLLINA*, R. Br. (Syn. *E. BROWNII*, F. v. M., Fragm., v. 88. (Scrophulariaceae).

There can be no doubt that Mueller was correct in placing four of R. Brown's species in one, but as was pointed out by Bentham, the proper course was to extend one of them to include the others, and so avoid a new name. Even considered as varieties, the line of demarcation is not distinct in all cases, and the type forms show a regular gradation from dwarf, small-

flowered forms to taller, more luxuriant and larger-leaved and flowered forms, in the following sequence:—

*E. collina*, R.Br., var. *striata*. (*E. striata*, R.Br.; *E. alpina*, var. *humilis*, Benth.).

*E. collina*, R.Br., var. *alpina*. (*E. alpina*, R.Br.; *E. diemenica*, Spreng.).

(Type form) var. *typica*. (*E. collina*, R.Br.; *E. tetragona*, R.Br.; *E. multicaulis*, Benth.).

*E. collina*, R.Br., var. *paludosa*.

„ „ var. *speciosa*. (*E. speciosa*, R.Br.).

Further, the size of the flowers tends to increase in cultivated specimens, and the colour is highly variable.

#### KOCHIA VILLOSA, Lindl., 1848. (Salsolaceae).

Among some stored specimens at the Herbarium, probably derived from the Sonder collection, one was found from A. de Jussieu, dated 1832, *E. Nova Hollandia*, and named *Rhogodia*, *Billardierii*, R.Br., which proves to be the above. Hence this *Kochia* reached Europe long before it was described by Lindley, and the present is possibly the oldest Herbarium specimen of the plant. The label and specimen are pasted on the sheet, and hence there is no possibility of accidental transference having occurred.

#### LYONSIA STRAMINEA, R. Br. = *L. STRAMINEA* (R. Br.). Benth. and Mueller. (Apocynaceae).

In pursuing some interesting archaeological but hardly botanical studies, Britten<sup>1</sup> concludes that the *L. reticulata* of F. v. Mueller, is the true *L. straminea* of R.Br., and proposes a new name (*L. Brownii*) for the plant, supposed to be Brown's *L. straminea* by Bentham and Mueller. A more confusing and unnecessary addition to synonymy could hardly be proposed, and it is interesting to note on p. 240, that Britten sharply criticises Druce for a similar addition to synonymy based on no more certain grounds. Britten admits that "Brown published no detailed description of the species," but considers that de Candoille's description of *L. straminea* referred, "at any rate in

<sup>1</sup> Journ. of Botany, vol. xlv., 1907, p. 235.



part," to Mueller's *reticulata*, and that Bauer's figure was named, "doubtless on Brown's authority," *L. straminea*. Vague assumptions of this kind afford no grounds for troublesome changes of long-standing names. Indeed, a work of this character tends to bring systematic botany into bad odour with workers in other branches, who suffer from such changes, and if there is any difficulty in regard to the specimens at the National Museum, London, surely the proper course is to add explanatory labels to them, as in the above heading. Archæology and botany are separate subjects, and should be kept apart.

Article 50 of the International Rules of Botanical Nomenclature, 1905, says:—"No one is authorised to reject, change or modify a name (or combination of names) because of the existence of an earlier homonym which is universally regarded as non-valid, or for any other motive either contestable or of little import." Hence the names should remain as before, *L. Brownii* Britten being a synonym for *L. straminea* (R.Br.), Bentham and Mueller.

*MEDICAGO HISPIDA*, Gaertn., var. *INERMIS*, Urb. (Papilionaceae).  
(Syn. *MEDICAGO RETICULATA*, Benth.). Determined at  
Kew Herbarium, England.

Dimboola Shire. F. M. Reader, October 16th, 1898. Geelong and Penshurst (1906), H. B. Williamson.

This Medick was recorded by Mr. Reader in the Victorian Naturalist, vol. 19 (1903), p. 159, as *Medicago turbinata*, Willd., but *M. turbinata* is quite a distinct plant from Reader's specimens. It was also known here under the names of *M. striata* and *M. nummularia* (*M. cretica*), but differs from both of these. As no specimens of the above variety were in the National Herbarium, the plants were sent to the Kew Herbarium for verification, and determined as above. It is a naturalized alien from Southern Europe.

*OLEARIA HOMOLEPIS*, F. v. M., var. *PILOSA*, new var.  
(Compositae).

Cowcowing, West Australia. Max Koch, No. 1087 (1904).

The variety differs from the type in having slightly longer

peduncles, the flowers sometimes more than three together, the bracts usually somewhat shorter and more pointed. The leaves shorter (about 1cm. long), and the whole plant covered with a more or less well-developed pubescence, the scabrous hairs less developed.

From *O. strigosa*, Benth., it differs in its twenty or more ray florets, equal pappus and short nonseptate scabrous hairs. It bears some resemblance to *O. adenolasia* (F. v. M.), but is distinguished by its more numerous ray florets, larger heads, more pointed and usually coloured bracts.

#### PHYMATOCARPUS. (Myrtaceae).

The leaves of this plant are given as opposite in Bentham's Flora, as in *Beaufortia* and *Regelia*. Examination shows that they are all alternate in *Phymatocarpus*, though closely set in *P. porphyrocephalus*, the bases are all at different levels, and in *P. Maxwellii* the internodes between the separate leaves are of some length. This gives an easy mode of distinguishing roughly *Phymatocarpus* from *Beaufortia* and *Regelia*. The only exception to the rule of opposite leaves in the last two genera is in *Beaufortia squarrosa*. This has mostly opposite leaves, but in some of the shoots the leaves, though closely set, are alternate, the bases being all at different levels. This is probably an instance of partial reversion to the more primitive type.

#### PODOLEPIS SPENCERI, A. J. E. (Compositae).

This plant bears a close external resemblance to *P. aristata*, Benth., Fl. Aust., III., 605, from which, however, the blunt outer bracts, the less deeply lobed ray florets, and the flowers white or pale instead of yellow distinguish it. Mr. Max Koch, its discoverer, also informs me that *P. spenceri* is only found in damp places near river flats, whereas *P. aristata* grows in drier situations.

#### PTEROSTYLIS CONCINNA X P. REFLEXA, var. INTERMEDIA.

A hybrid Orchid.

In all large genera (*Salix*, *Eucalyptus*, *Acacia*, *Rubus*, *Hieracium*) the imperfect segregation of certain species may result in the

production of hybrids, some of which in time obtain the fixity of species. The same applies to many genera of less extended scope. The present case of the occurrence of a natural hybrid in the genus *Pterostylis* (Orchidaceae) is, so far as I am aware, only the second instance recorded for that genus in Australia. The plants were found by Mr. J. R. Tovey at Mentone, Victoria, 1907, growing among patches of *Pterostylis concinna* and of *P. reflexa*, var. *intermedia*. Externally they resemble the latter plant, except that the basal rosette of leaves persists in some cases until flowering. The labellum, however, instead of having an entire obtusely-pointed tip, is broader and faintly but distinctly bifid at its extremity, in this respect, being exactly intermediate between the two forms. Some specimens show signs of reversion to one or the other parent. Bentham gives the scape of *P. concinna* as rarely above 1 inch. It is usually 3 to 5 inches long, and may bear 1, 2, or even 3 bracts, the lower ones always empty. The wings of the column are marked in white, green and purple, but the intensity, especially of the latter coloration, varies. The possibility of hybridisation must be borne in mind in future studies of this genus, and this explanation may apply to some of the species already described. In Fitzgerald's *Australian Orchids* mention is made of a supposed hybrid between *P. curta*, R.Br., and *P. pedunculata*, R.Br.

PULTENAEA STRICTA, Sims. In Bot. Mag., 1588 (1813).  
(Leguminosae).

Synonyms: *P. MAIDENI*, F. M. Reader, in Vict. Nat., xxii., 158 (1905); *P. LARGIFLORENS*, F. v. M., in Benth., Fl. Austr., ii., 134 (1864); *P. GUNNII*, Benth., in Ann. der Wien. Mus., ii., 82 (1839).

As the result of a close investigation of the numerous forms of these highly variable and closely related "species," it can only be concluded that we are dealing with forms of one large, extremely pleomorphic species. The original description of *Pultenaea stricta* in the Botanical Magazine, 1813, page 1588, was made from a plant flowering in England, and naturally refers to that specimen only, Sims being unaware of the varied forms assumed by the species in its native habitat.

The following description tallies in all essentials with the original one, but includes the other species mentioned. *P. stricta*, Sims. An erect spreading or somewhat decumbent shrub of 1 to 3 feet; the slender young branches minutely hoary or more or less silky-pubescent, sometimes somewhat angular and becoming glabrous when old. Leaves varying greatly in shape and size, sometimes on the same plant, from about 3 to 12 mm. long, ovate, oblong, cuneate or linear, obtuse or with a small straight or recurved point, nearly flat, but with the margin usually slightly recurved, shining and glabrous above, paler and hairy or silky pubescent beneath, especially when young. Midrib prominent, stipules small, narrow or lanceolate, and appressed, the narrower stipules often spreading. Flowers very shortly stalked, usually in small terminal heads of 2 to 8, but sometimes laterally arranged, and then usually axillary. Bracts imbricate, the outer ones small, the inner ones, when present, larger, 3 or 4 mm. long and either entire, bilobed, or with a hairy point between the two apical lobes, varying in these respects in the same head. Bracteoles lanceolate or nearly linear, usually about 3 mm. long, and more or less hairy on the back, inserted on the calyx tube, usually near its base. Calyx about 4 mm., pubescent or silky villous the three lower lobes pointed—lanceolate, about as long as the tube, the two upper lobes broader, usually more or less falcate and united to about the middle. Standard twice as long as the calyx, the wings and keel a little shorter than the standard, the keel deeply coloured, the ovary villous, the style filiform, but slightly thickened towards the base, where a few scattered hairs may be seen. Pod obliquely or almost triangular, ovate, more or less flattened and hairy, or silky, pubescent, usually 4 to 5 mm., long and projecting beyond the calyx.

Variety MAIDENI (*PULTENAEA MAIDENI*, Reeder).

The stipules more lanceolate, the inner bracts usually hairy on the back, as well as the edges and tip, and slightly shorter. The "trifid" or bilobed apex of some of the inner bracts is evidence of their stipular character, and is not peculiar to this variety, which is very close to the type form.

Variety *GUNNII* (*P. GUNNII*, Benth.). In Ann. der Wien. Mus., ii., 82 (1839).

This has narrower, usually spreading stipules, the inner large bracts are usually absent, but in all the forms, including the type, the bracts usually fall as flowering advances, and some forms of our *Gunnii*, have much larger bracts than others. In the typical forms the leaves are usually broader at the base and taper more or less towards a usually pointed apex. In the typical *A. stricta* the leaves are usually broader near the apex, then suddenly contracting to a distinct point. The difference is more constant on the larger stem leaves.

Variety *LARGIFLORENS* (*P. LARGIFLORENS*), F. v. M.  
In Benth. Fl. Austr., ii., 134 (1864).

The flowers may be either axillary or lateral, or in terminal clusters, the bracteoles are usually inserted higher up on the calyx tube, and the two upper calyx teeth are less or not at all falcate, and the fruits usually smaller.

Variety *INCURVATA*, new var. Locality, Frankston, Coll.  
J. W. Audas, 1907.

This has the leaves with hard, minutely-pointed, recurved tips, giving the plant a peculiar harsh feel when drawn through the fingers. In some respects it is intermediate between the variety *Maideni* and the type form.

*Pultenaea retusa*, Sm., comes near to some forms of *P. stricta*, but the calyx teeth are of more equal shape and length, and the calyx is hardly bilabiate. The usually straight upper calyx teeth of variety *largiflorens* show an approach to this species.

It may seem a bold course to reduce these three well-known species, but the numerous connecting links leave no other course possible, and there is no evidence as to the existence of hybridization between these four species. Variety *largiflorens*, shows the largest, variety *Gunnii* a lesser, and variety *Maideni* the least divergence from the type, but the same reasons that could be urged for their maintenance as distinct species could be used to found at least 12 species out of the numerous connecting forms. It may be taken as a general rule that in all large genera the

term "species" should be given as broad a scope as possible, not merely for reasons of practical utility, though these are of value, but because it is precisely in such genera that groups of varieties as yet imperfectly segregated into species are most likely to occur, and by recognising such varieties as species too hastily we render it more difficult for the workers of subsequent centuries to obtain evidence of evolution in such cases. In addition, the synonymy is less likely to become so extensive as at present. Thus it is doubtful whether the genus *Pultenæa* contains many more than 60 valid species, although over 150 have been recorded, and the same proportion holds for most large genera.

A specimen of *P. Williamsoni*, Maiden<sup>1</sup> was referred at Kew to a variety of *P. stricta*. The National Herbarium contains both under *P. stricta* and *P. paleacea* specimens examined by Bentham or by Mueller, which come very close to, or practically match specimens of *P. Williamsoni*. Altogether there can be no doubt that the genus will not be on a satisfactory basis until cultural experiments under varying conditions have been performed with all its supposed species, and the result of such experiments will probably be to give the selected species in the genus a much wider range than they have hitherto enjoyed.

*SPOROBOLUS BENTHAMII*, Bailey = *S. VIRGINICUS*, Kunth, var. *PALLIDA*. (Gramineae). Queensland Flora, p. 1880, Bull. Dept. Agric., Queensland, xiii., p. 16.

The 22 sheets of this variety in the National Herbarium show a far greater range of variation than Bailey's specimen from the type, and yet have no constant character of more than varietal significance. Although the outer glumes are usually about equal, the lower one is occasionally slightly longer than the upper, and sometimes, especially on the basal spikelets, not more than half its length. In this respect, in the more hyaline outer glumes, and in the longer spike the variety shows an approach to *S. indicus*, R.Br., from which, however, the vegetative habit differs. It is, in fact, possible that cultural experiments might show *S. virginicus* to be a marsh and maritime form of variety of *S. indicus*, developed in brackish situations.

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<sup>1</sup> Vict. Nat., vol. xxii., p. 6, 1905.

Bailey admits that his *S. Benthami*, and his var. *minor* of *S. virginicus* probably form the var. *pallida* of *S. virginicus*, recognised by Bentham, and even a cursory examination of the material at the National Herbarium would have shown that the new species was untenable.

Given as new to New South Wales (*L. Cudgellico*) by Maiden and Betche, Proc. Linn. Soc. N.S.Wales, 1906, Vol. XXXI., p. 739.

*TUNICA PROLIFERA* (L.) Scop., var. *VELUTINA* (T. *VELUTINA*,  
Fisch. and Meyer). (Caryophyllaceae).

This naturalized alien was recorded by Mueller as *T. velutina* in Vict. Nat. X., p. 145, 1893, and by Reader as *T. polifera*, in Vict. Nat., XX., p. 88, 1903. Both species are given as valid in the Kew Index, and in Boissier's *Flora Orientalis*. *T. velutina* differs from *T. prolifera* mainly in having leaves with smooth edges (instead of minutely toothed), hairy internodes (instead of glabrous), longer leaf-sheaths and smaller seeds. None of these features are constant; hairy specimens may have rough-edged leaves, and some specimens of *T. velutina* have the lower leaves minutely toothed entirely or in part. The length of the leaf-sheath may vary on one and the same specimen, as may also the size of the seeds. Hence the species must be reduced to a variety of *T. prolifera*, joined to that species by intervening forms. Most of the Victorian specimens belong to the variety *velutina*, but some of Mueller's are intermediate in character.

Mount Ararat, Nov., 1883, D. Sullivan; Upper Murray River, C. French, 1886; Clyde Mts., N.S.W., Oct., 1888, W. Bauerlen; Delatite, 1890 and 1891, Rev. R. Thom, Goulbourn River, 1892, W. F. Gates; near Lake Urana, N.S.W., 1894, G. Luehmann, Jr.; near Seymour, 1902, Mrs. F. M. Reader.